

South African researchers integral to UN
'natural capital accounting' pilot



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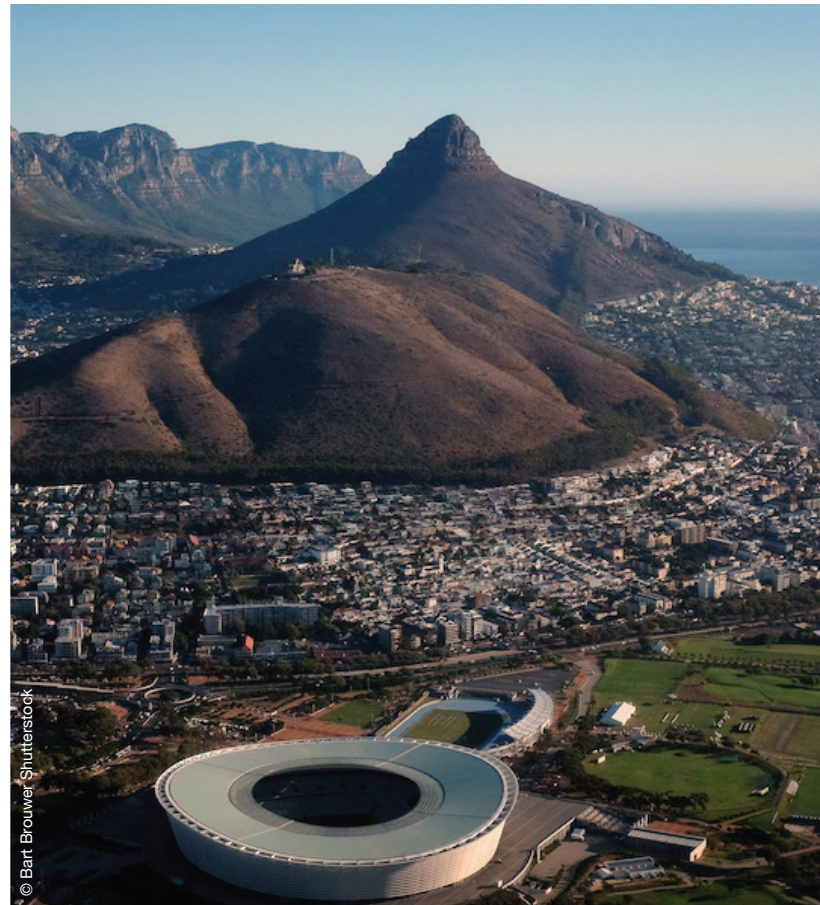
Natural environments in and around the South African coastal city of Durban provide goods and services to the national economy that amount to an estimated US\$ 350 million (R 4.2 billion) each year. This 'conservative estimate' includes the value of resources that people collect from their natural surroundings, such as wild-harvested foods, firewood and timber, or water taken from rivers for home use.

This figure also reflects the value of ecosystem services, such as how forests and grasslands in the broader municipal area bank away atmospheric carbon or regulate water flow. It captures the cultural and tourism values as people appreciate these places for their natural beauty.

Environmental economist Dr Jane Turpie, who was the lead researcher on the study, presented these findings at a meeting in Pretoria in September 2017, hosted by Statistics South Africa (Stats SA), the United Nations Statistics Division (UNSD) and the Delegation of the European Union to South Africa. A component of the workshop was to demonstrate the methods used by local economists who have worked extensively to calculate the value of ecosystem services to South Africa's economy.

'The objective was to present an overview of the work that has been done in the field of ecosystem services valuation in South Africa,' explains Turpie, co-director of the University of Cape Town's Environmental Policy Research Unit (EPRU) and director of Anchor Environmental Consultants.

'We were also asked to present case studies that are relevant to the standards that the UN Statistics



EfD South Africa is a leading institution in research that helps place an economic value to the natural environment, such as the 'amenity value' of its urban green spaces like those in and around Cape Town.

Division is developing for valuing ecosystem services, which links to a growing field called natural capital accounting.'

The skills and methods that Turpie and her team have drawn on in their work on ecosystem services valuation will feed into a groundbreaking initiative being led by the UN Statistics Division, which aims to standardise a system of 'natural capital accounting' globally, in the form of what it calls the System of Environmental-Economic Accounting (SEEA). This aims to measure the value of nature's services in the way that 'gross domestic product' (GDP) measures the goods and services produced within a country's economy.

The workshop last September launched the South African component of a five-country pilot project. This will involve researchers and relevant government departments from four countries in the BRIC economic bloc – South Africa, Brazil, India and China – as well as Mexico, working together to develop natural capital accounts and to feed lessons into further development of the SEEA. Key South African partner agencies in this European Union-funded work include StatsSA and the South African National Biodiversity Institute (SANBI), which will be co-leading South Africa's team.

'The UN viewed our Durban case study with high regard. They want to see how we can expand that approach to a national scale,' explains Turpie, who is contracted by UN Environment to assist the South African team with developing the local ecosystem accounts, and then using the accounts to analyse how different environmental policies could result in different future scenarios.

How GDP fails to capture the value of nature

National accounting, of which GDP is a headline indicator, is a tool that standardises the measurement of how different countries' economies are structured and how they perform in terms of growth, explains Mandy Driver, former EPRU associate and senior biodiversity policy advisor with SANBI, which will co-lead the South African team along with StatsSA. One country's economy, for instance, might be built on exporting agricultural produce; another's might be strongest in manufacturing. GDP provides a way of comparing these two economies, even though it isn't an 'apples-with-apples' comparison. However, 'the GDP approach reflects primarily things that are produced and traded in markets,' explains Driver. A country's annual accounting process doesn't reflect the economic value of natural assets – such as fish stocks, or forest resources, or energy – unless they are harvested and traded. Similarly, GDP doesn't

reflect the full value of ecosystems, or the value that is lost if those natural assets and ecosystems are degraded. For instance, a country's accounting books will reflect the value of a load of timber, once it has been felled and sold off. They won't record the value of that timber as it stands in the forest, where it draws carbon dioxide out of the atmosphere, or regulates water flow into the nearby river system. The natural capital accounting pilot hopes to build the methodology needed to reflect the economic contribution of a country's natural assets and ecosystem functions, and their condition, into its annual accounts.

To date, the SEEA has focused on capturing the value of so-called 'individual environmental assets', such as water, fish stocks, or energy. It has proven much more difficult to capture the financial value of the ecosystems that provide that water, or support fish species, or provide energy.

'Dealing with ecosystems is much more complex than just dealing with a single natural resource,' explains Driver. 'It's easy to account for the value of the timber in the forest, but much more challenging to account for the state of the forest itself or the full range of services it offers.'

SANBI is a leader amongst the five pilot countries in the project in terms of work that has been done nationally to quantify the extent of South Africa's different ecosystems, and how healthy and functional they are.

'Jane Turpie's ecosystem service valuation work will feed into the process of developing ecosystem service accounts, building on accounts of the extent and condition of our ecosystem assets, which will also be a strong focus of the project,' says Driver.

Researchers involved

Jane Turpie.

EfD in South Africa

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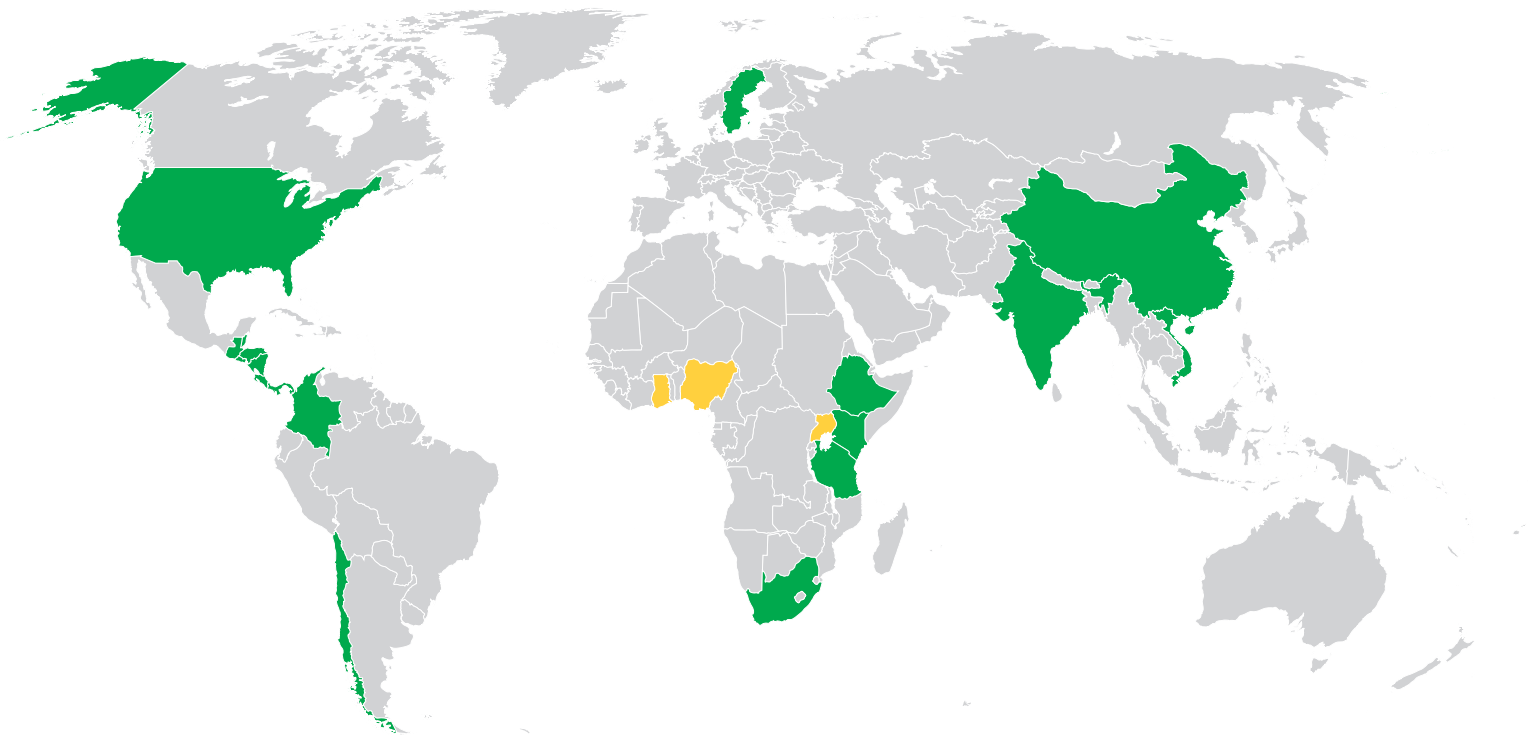
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